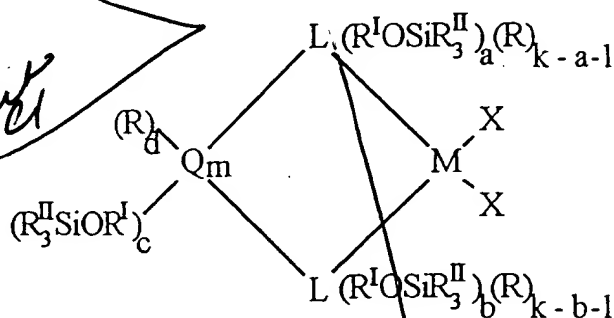


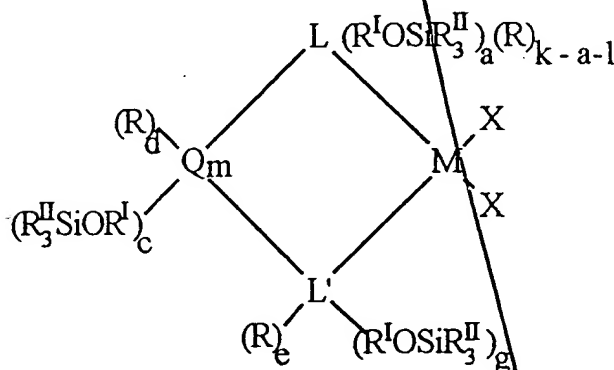
compound is defined by [the following general formulas] formula I, II, or III:



I,



II, or



III,

wherein:

the **L** groups are[,] equal to or different from each other, wherein each **L** is selected from the group [comprising:] consisting of cyclopentadienyl, indenyl, tetrahydroindenyl, fluorenyl, octahydrofluorenyl, and [or] benzoindenyl;

each **R** is independently [selected from] hydrogen, linear or branched C₁-C₂₀ alkyl, linear or branched C₃-C₂₀ cycloalkyl, linear or branched C₆-C₂₀ aryl, linear or branched C₃-C₂₀ alkenyl, linear

or branched C₇-C₂₀ arylalkyl, linear or branched C₇-C₂₀ alkylaryl, linear or branched C₈-C₂₀ arylalkenyl, [linear or branched, optionally substituted by 1 to 10 halogen atoms,] or a group SiR^{II}₃, wherein the C₁-C₂₀ alkyl, the C₃-C₂₀ cycloalkyl, the C₆-C₂₀ aryl, the C₃-C₂₀ alkenyl, the C₇-C₂₀ arylalkyl, the C₇-C₂₀ alkylaryl, and the C₈-C₂₀ arylalkenyl are optionally substituted with 1 to 10 halogen atoms;

the [each] R^I[,] groups are equal to or different from each other, wherein each R^I is a divalent aliphatic or aromatic hydrocarbon group containing from 1 to 20 carbon atoms, optionally containing from 1 to 5 heteroatoms of groups 14 to 16 of the [periodic table] Periodic Table of the [elements] Elements, and optionally containing boron; [preferably it is: C₁-C₂₀ alkylene, C₃-C₂₀ cycloalkylene, C₆-C₂₀ arylene, C₇-C₂₀ alkenyl, C₇-C₂₀ arylalkylene, or alkylarylene, linear or branched, or a group SiR^{II}₂;

each R^{II} is independently [selected from] linear or branched C₁-C₂₀ alkyl, linear or branched C₃-C₂₀ cycloalkyl, linear or branched C₆-C₂₀ aryl, linear or branched C₃-C₂₀ alkenyl, linear or branched C₇-C₂₀ arylalkyl, linear or branched C₈-C₂₀ arylalkenyl, or linear or branched C₇-C₂₀ alkylaryl, linear or branched; preferably R^{II} is methyl, ethyl or isopropyl];

each Q is independently [selected from] B, C, Si, Ge, or Sn;

M is a lanthanide, an actinide, or a metal of group 3, 4, or 10 of the Periodic Table[, Lanthanide or Actinide] of the Elements, and M has a valence;

each X is independently [selected from:] hydrogen, chlorine, bromine, OR^{II}, NR^{II}₂, C₁-C₂₀ alkyl, or C₆-C₂₀ aryl ;

L' is N or O;

when L is cyclopentadienyl, k is equal to 5[,]; when L is indenyl, k is equal to 7[,]; when L is fluorenyl or benzoindenyl, k is equal to 9[,]; when L is tetrahydroindenyl, k is equal to 11; and

when **L** is octahydrofluorenyl, **k** is equal to 17;

z is equal to 0, 1, or 2;

x is equal to 1, 2, or 3;

y is equal to 1, 2, or 3;

x + y + z is equal to the valence of **M**;

m is [an integer which can assume the values] equal to 1, 2, 3 or 4;

a [and **b** are integers] is an integer whose value ranges from 0 to **k-1**;

b is an integer whose value ranges from 0 to **k-1**;

f is an integer whose value ranges from 1 to **k**;

g is [an integer whose value ranges from] equal to 0 to 1;

c [and **e** are] is equal to 0 or 1;

e is equal to 0 or 1;

a + b + c is at least 1;

a + g + c is at least 1;

d is equal to 0, 1, or 2;

when **Q** is **B_L** then **c + d = 1**;

when **Q** is **C, Si, Ge_L** or **Sn**, then **c + d = 2**;

when **L'** is **N**, then **g + e = 1**; and

when **L'** is **O**, then **g = 0** and **e = 0**.

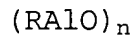
2. (amended once) A heterogeneous [Heterogeneous] catalytic

Composition system according to claim 1 wherein the group $R^I\text{OSiR}^{II}_3$ is [selected from] $\text{CH}_2\text{-CH}_2\text{-OSiMe}_3$, $\text{CH}_2\text{-CH}_2\text{-CH}_2\text{-OSiMe}_3$, $\text{CH}_2\text{-O-CH}_2\text{-OSiMe}_3$, $\text{O-CH}_2\text{-CH}_2\text{-OSiMe}_3$, $\text{SiMe}_2\text{-CH}_2\text{-CH}_2\text{-OSiMe}_3$, $\text{SiMe}_2\text{-OSiMe}_3$, or $\text{SiMe}_2\text{-CH}_2\text{-CH}_2\text{-CH}_2\text{-OSiMe}_3$.

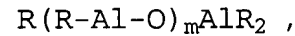
3. (amended twice) A heterogeneous [Heterogeneous] catalytic

Composition system according to claim 1 wherein **M** is titanium, zirconium, or hafnium.

C 4. (amended twice) A heterogeneous [Heterogeneous] catalytic system ^{Composition} according to claim 1 wherein the alumoxane is represented by [the formulas] a formula:



or



wherein **R** is an alkyl or an aryl group containing from 1 to 20 carbon atoms; **n** ranges from 1 to 40[,]; and **m** ranges from 3 to 40.

B1
C 5. (amended twice) A heterogeneous catalytic [Heterogeneous catalyst] system ^{Composition} according to claim 1 wherein the inorganic support is selected from the group consisting of silica, alumina, silica alumina, aluminum phosphates, and mixtures thereof.

6. (amended twice) A heterogeneous catalytic [Heterogeneous catalyst] system ^{Composition} according to claim 1 comprising a transition metal, wherein [the content in] the transition metal [is comprised] comprises between 0.01 and 3% by weight of the catalyst system.

C 7. (amended twice) A heterogeneous catalytic [Heterogeneous catalyst] system ^{Composition} according to claim 6 wherein the [content in] transition metal [is comprised] comprises between 0.1 and 1% by weight of the catalyst system. ^{Composition}

C 8. (amended twice) A process [Process] for [the] polymerization of alpha olefins in a slurry or in a gas phase, [characterized by] wherein the polymerization is catalyzed by [the use of] the heterogeneous catalyst system ^{Composition} of claim 1.

Please add the following new claims.

C 12126 10 *Composition*
 11. A heterogeneous catalytic system as claimed in Claim 1, wherein each R^I is linear or branched C_1 - C_{20} alkylene, linear or branched C_3 - C_{20} cycloalkylene, linear or branched C_6 - C_{20} arylene, linear or branched C_7 - C_{20} alkenyl, linear or branched C_7 - C_{20} , linear or branched arylalkylene, linear or branched alkylarylene, or a group SiR^{II}_2 .

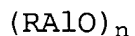
B2 11 *Composition*
 12. A heterogeneous catalytic system as claimed in Claim 1, wherein R^{II} is methyl, ethyl, or isopropyl.

C 12 *Composition*
 13. A heterogeneous catalytic system as claimed in Claim 12, wherein R^{II} is methyl, ethyl, or isopropyl.

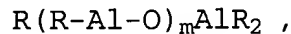
C 13 *Composition*
 14. A heterogeneous catalytic system as claimed in Claim 2, wherein M is titanium, zirconium, or hafnium.

C 14 *Composition*
 15. A heterogeneous catalytic system as claimed in Claim 13, wherein M is titanium, zirconium, or hafnium.

15 *Composition*
 16. A heterogeneous catalytic system as claimed in Claim 2, wherein the alumoxane is represented by a formula:

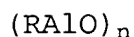


or

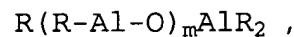


wherein R is an alkyl or an aryl group containing from 1 to 20 carbon atoms; n ranges from 1 to 40; and m ranges from 3 to 40.

C 16 *Composition*
 17. A heterogeneous catalytic system as claimed in Claim 3, wherein the alumoxane is represented by a formula:

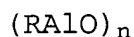


or

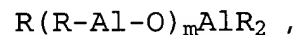


wherein **R** is an alkyl or an aryl group containing from 1 to 20 carbon atoms; **n** ranges from 1 to 40; and **m** ranges from 3 to 40.

C ¹⁷ ~~18~~. A heterogeneous catalytic ^{Composition} system as claimed in Claim ¹² ~~13~~, wherein the alumoxane is represented by a formula:



or



wherein **R** is an alkyl or an aryl group containing from 1 to 20 carbon atoms; **n** ranges from 1 to 40; and **m** ranges from 3 to 40.

C ¹⁸ ~~19~~. A heterogeneous catalytic ^{Composition} system as claimed in Claim 2, wherein the inorganic support is selected from the group consisting of silica, alumina, silica alumina, aluminum phosphates, and mixtures thereof.

C ¹⁹ ~~20~~. A heterogeneous catalytic ^{Composition} system as claimed in Claim 3, wherein the inorganic support is selected from the group consisting of silica, alumina, silica alumina, aluminum phosphates, and mixtures thereof.

²⁰ ~~21~~. A process for polymerizing a monomer or a mixture of a monomer and a comonomer, wherein the process comprises: contacting the heterogeneous catalytic ^{Composition} system claimed in Claim 1 with the monomer or the mixture to polymerize the monomer or the mixture.--
